

The art unit designated for this application has changed. Applicant(s) are hereby informed that future correspondence should be directed to Art Unit 1807.

Further Explanation of Item 4 on the attached Advisory Action:

Applicants argue the rejection based on a lack of enablement by stating that there has been no scientific reasoning set forth to support the rejection. In response, applicants are directed to the reasoning in the office actions, mailed 12/3/96, and repeated in the final action, mailed 8/5/97. In both of these actions, statements are made regarding non-natural backbone embodiments that are known in the prior art as well as the complications of polymer synthesis, especially directed to reactive bases present on the monomers that must be protected to avoid undesired side reactions. Applicants are additionally pointed to the termini lack of enablement issues regarding claims 11-21. These statements constitute scientific reasoning. If applicants feel that these statements directed to citing several complications of polymer synthesis do not constitute scientific reasoning, an explanation is requested as to why not. It is noted that a very limited number of new polymer backbone structures for polymers that can hybridize to target nucleic acid has been the subject of scientific papers in the art. An example, is relatively recent art directed to PNA polymers. Is it applicants position that the development of such syntheses is within the skill of someone of ordinary skill in the art without

reasonably detailed guidance as to how to accomplish it? Lastly, three basic backbone structures were cited as sufficiently enabled. If applicants feel that others are enabled, then at least one example should easily be set forth. It is noted that applicants have not cited even one example of backbone structure beyond what is already of record as being acknowledged as being enabled. In summary, the arguments of applicants is directed to a lack of reasoning to support the rejection. Since reasoning has been pointed out of record and has been ignored by applicants, the argument is non-persuasive in overcoming the enablement rejection of instant claims 1-8 and 11-21.

The rejection of claims 1-8 based on Summerton et al. (WO 86/05518) is maintained. Applicants argue that the reference does not disclose nucleic acid mimics wherein bulky groups are attached via a 1-3 atom linkage and that Summerton discloses synthetic intermediates wherein protective groups are removed prior to hybridization. In response, page 21 of the reference cites a benzoyl group that is attached to cytosine as set forth in the office action, mailed 12/3/96. This group is made up of a bulky phenyl ring attached to the cytosine base via a carbonyl linkage. Such a carbonyl linkage results in a one atom space between the phenyl ring and the cytosine base. It is acknowledged that this protective group is removed prior to usage in a hybridization assay, however, the instant claims do not contain a limitation that prevents these intermediates from being

within the scope of the instant claims. For example, applicants have not pointed to nor has the examiner found any definition of "mimic" that negates such synthetic intermediates from being within the scope of the instant claims. On page 2 of the instant specification at lines 16-20, mimics of the invention only are limited as to containing sterically bulky groups with 1-3 atoms spacing from the attachment position on a base to which it is attached. Lines 21-31 go on to discuss the disfavoring of triplex formation. It is also noted that the instant claims are directed to polymer compositions and are not method claims. It is also noted that instant claim 8 exactly cites the Summerton et al. benzoyl bulky group embodiment. Additionally, it is noted that prior art compositions that are put to another use than that described in an application for a patent does not prevent the compositions per se from being rejectable over said prior art compositions. In summary, the rejection is maintained for the above reasons.

Papers related to this application may be submitted to Group 1800 by facsimile transmission. Papers should be faxed to Group 1800 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is (703) 305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703) 308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

Serial No. 08/612,661

- 5 -

Art Unit: 1807

If attempts to reach the examiner by telephone are unseccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Chemical Matrix receptionist whose telephone number is (703) 308-0196.

January 6, 1998

*Ardin H. Marschel*

ARDIN H. MARSCHEL  
PRIMARY EXAMINER  
GROUP 1800